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ABSTRACT

Lack of education causes and is caused by poverty. In urban areas, it adds to the vulnerability of the poor, resulting in inaccessible schools and irrelevant curricula. Building urban communities and harnessing social capital can create an environment where the poor will have greater opportunities for making decisions that influence their lives. Empowered communities are better able to engage institutions in dialogue and articulate their needs to leverage an equitable share of city resources. City plans that integrate poor residents' requirements can mitigate the daily risks faced by the poor. This paper discusses the process of community building within the framework of an education enhancement program that includes a plan for reaching out to the poor in Delhi, India. It discusses various vulnerabilities that place the urban poor at risk, noting self-help strategies that communities have initiated to close the education gap. It describes a spatial information system built upon the Geographical Information System that has captured people's attention, particularly regarding education. Effectiveness of this management tool for addressing and monitoring poverty reduction in urban areas is examined, recommending an inclusive policy for poverty alleviation and suggesting the strategic framework necessary to alleviate urban poverty in partnerships with communities. (SM)

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COMMUNITY BASED INFORMATION SYSTEMS FOR EDUCATION MANAGEMENT IN URBAN AREAS

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COMMUNITY BASED INFORMATION SYSTEMS FOR EDUCATION MANAGEMENT IN URBAN AREAS

Abstract

Lack of education is both the reason and a result of poverty. In urban areas, lack of education adds to the vulnerability of the poor, deepening their invisibility in the planning process. Specifically for education, this implies inaccessible schools, inappropriate timings, and irrelevant curricula.

Building urban poor communities and harnessing their social capital can help create an environment wherein the poor will have greater opportunities for taking decisions that influence their lives. Empowered communities are better able to engage city institutions in a dialogue and articulate their needs and priorities to leverage an equitable share of the city resources. Pro poor city plans that integrate the requirements of people can mitigate the risks that the poor face on a day-to-day basis.

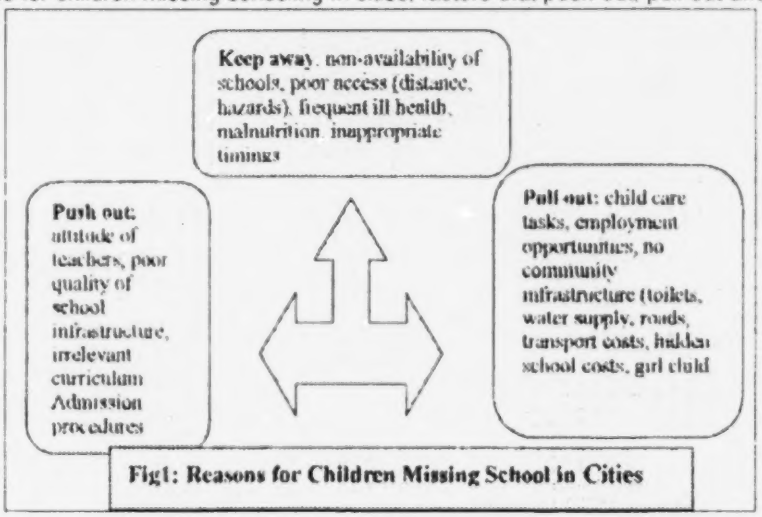
This paper will discuss the process of community building within the framework of an education enhancement programme with a vision for reaching out to all poor in the mega city of Delhi in India. It will indicate the range of vulnerabilities that place the poor at risk in cities and self-help strategies that have been initiated by communities to close the education gap under the programme facilitated by the National Institute of Urban Affairs. It will provide details of a spatial information system fabricated upon the Geographical Information System that has captured people's priorities/concerns, with specific reference to education. Effectiveness of this management tool for addressing and monitoring the challenge of poverty reduction in urban areas will be examined. Arguments in favour of an inclusive policy for poverty alleviation will be offered. In conclusion, it will suggest the strategic framework that is necessary to alleviate poverty in urban areas in partnership with communities.

COMMUNITY BASED INFORMATION SYSTEMS FOR EDUCATION MANAGEMENT IN URBAN AREAS

Within the next decade, number of children who would have missed primary school in urban areas in India will be nearly 25 million, half the child population under 10 years from urban poor households[1] Almost all these children will be absorbed at an early age in low end, unproductive employment, earning incomes barely enough to live a life of quality in environmentally sustainable settlements. Without employable skills as adults, these children will remain invisible in urban policies and plans, unable to leverage their share of the nation's/city's resources or to negotiate for their entitlements. (Annex 1: Key Education Statistics).

Education is the single most critical investment that can bring about a significant reduction in people's poverty and decrease their vulnerability. It can help to buffer the poor through safety nets that increase their control over economic, social and political forces that invariably threaten personal survival or are severely detrimental to their psychological, physical and social well-being. Low education with resultant low earning capacity has serious impacts on macro economic growth. Denial of education to girls is a key reason for the increasing pressure on population and perpetuation of gender based iniquitous practices.

Several reasons are responsible for children missing schooling in cities; factors that push out, pull out and keep away children from regularly attending formal schools (Fig 1). Some of these causes, particularly those that relate to physical environment, are unique to cities.


Keep away: non-availability of schools, poor access (distance, hazards), frequent ill health, malnutrition, inappropriate timings
Push out: attitude of teachers, poor quality of school infrastructure, irrelevant curriculum Admission procedures
Pull out: child care tasks, employment opportunities, no community infrastructure (toilets, water supply, roads, transport costs, hidden school costs, girl child
Fig1: Reasons for Children Missing School in Cities

Vulnerability of the Poor

Poor households are often vulnerable or at risk due to a host of reasons, four critical ones being linked to their survival, security, quality of life and empowerment. While educational deprivation makes all poor vulnerable, vulnerability in cities can also accrue from a range of other deficits such as: lack of income and poor access to regular/ formal employment, living in informal settlements with insecure tenure in low quality shelters and inadequate basic services, unsanitary and unsafe living and working conditions that expose family members to high risk of disease/abuse, non ownership of productive assets, denial of opportunities, choices, technology or entitlements, low access to micro-finance and disempowerment or invisibility in local/national decision making processes. Sudden shocks due to natural/ man-made disasters, seasonal variations, or health emergencies deepen household vulnerability, particularly when these influence people's ownership or control over critical assets related to labour, human capital, housing, household relations and social networks[2] and reduce earning/learning capacity or increase economic burden of urban poor. Living in states of prolonged vulnerability can be severely detrimental to the psychological, physical and social well being of individuals, communities and social/ethnic groups.[3]

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Poverty when viewed through the vulnerability lens appears to be both dynamic and complex; its intricacy pushing households/ individuals in and out of poverty depending upon their particular circumstances. At the same time each problem encountered by poor impacts upon their overall situation to deepen the nature of their poverty (Box 1: Vulnerability conditions in low-income urban neighbourhoods).

The Primary Education Enhancement Programme (PEEP)

PEEP is designed to reduce vulnerability of poor that accrues from a lack of education in the mega city of Delhi. It seeks to address this challenge in partnership with the principle stakeholders, the poor communities and children and the urban local bodies in Delhi (held responsible for primary education under the Constitutional Amendment Act that has decentralized education planning processes down to the municipal government), the national and state agencies and UNICEF with support of AUSAID. National Institute of Urban Affairs (NIUA) brings to this assembly its expertise and institutional memory with regard to community building, to create a demonstrable model for urban education intervention.

Primary objectives of PEEP are to promote enrolment of all urban poor children in formal schools, ensure their regular participation and retention through improved classroom processes and guarantee their learning basic primary level skills. In order to achieve these aims, communities, in particular women's groups are organized and engaged with local governments and their institutions to promote a relevant education programme.

Building Social Capital

All communities possess a network of social relations or social capital, rooted in their conventional social structures, uniting their different institutions and facilitating a cooperative endeavour towards achievement of common or cherished goals. Social capital in communities bestows them with a sense of identity, enabling them to access information and resources for community development. It bonds people with local and national political institutions in a mutually beneficial relationship. Any strategy that promotes urban education therefore must work at building such social capital of communities.

Community building processes under PEEP were initiated in nearly 300 urban low-income neighbourhoods in 1998 (Delhi has 1190 low-income settlements or slums that house between 30 and 50% of the city population, Box 2: Delhi's demographic profile). Participatory Learning and Action (PLA) tools i.e. community household mapping, matrix ranking, venn diagrams, seasonality maps, seeds etc. were used to work with the poor women, engaging them in the process of identifying their own needs and priorities and preparing community level action plans. Community interactions are facilitated by a team of facilitators and network of local NGOs, trained at NIUA to understand concerns of the poor, in a series of short training modules punctuated by fieldwork assignments and supported by a team of Supervisors cum resource persons.

Fig 2: Communities identify priorities using PLA tools

Community associations begin as neighbourhood groups (NHG) of about 50 women who live spatially close to each other. Each NHG identifies a few women as their key leaders. Several such NHG groups/leaders in a community are federated into a Neighbourhood Committee (NHC). Some women leaders in the NHC constitute a Community Education

Committee (CEC) to address in particular problems relating to the education of children. NHCs also discuss other issues of concern relating to lack of basic services, employment or shelter and plan and execute some community based self-help solutions. Formation of neighbourhood associations however, can be particularly challenging in the hetrogenous settings of low-income city settlements. Networking these associations from spatially contiguous areas for an in-person interaction between the civil society and government is even more demanding. Greater the mix of cultures or ethnic groups, more intricate becomes the task of overcoming internal differences and fostering a sense of community with a shared purpose, a clear sense of duties and a spirit of ownership and self-reliance.

Building women's organisations helps to harness both gender and social capital. Since male dominated organizations miss gender priorities, women's engagement with political institutions is considered vital to creating equitable societies. Women's organizations, as in the case of communities at large, evolve self-help strategies for overcoming the tremendous hardships they encounter because of their cultural and economic disempowerment. It also improves their visibility and audibility in national and local plans. Women leaders under the PEEP programme have negotiated with local authorities and elected representatives to access basic services or improve the quality of their habitats. Women have also begun to mobilize savings as part of thrift and credit groups, to respond to small consumption/emergency credit. Basic infrastructure services in low-income urban communities have the best chance of being sustainable if women are involved in their planning, selection of technology/ service level, operation and maintenance and co-financing.

Self-help mechanisms for addressing needs of small children

Community self-help mechanisms have resulted in the setting up of Education Support Centres that are demand responsive and vary in nature from crèches, preschools, coaching centres, non-formal centres with bridge programmes, adult education centres, employment generation units etc. These centres respond to priority needs of neighbourhood women and are community managed and self-sustaining. Decisions regarding the fee, worker/teacher appointment, duration and timing etc. are decided by the NHC in consultation with the community women. Local solutions to problems of access have included arrangements for supervised transportation/walking to the school with the latter generating employment for some women for accompanying children to school.

Linkages with other partners

Although the focus of intervention remains on education, communities main concerns cannot be ignored. Convergence with other agencies and partners are being supported such as with the National Institute of Fashion Technology (for employment), Delhi Commission for Women (for legal literacy), CARE-India (for community infrastructure) and State Department of Urban Development (for access to micro-credit under the national urban poverty alleviation programme).

Geographical Information System: A Tool for Improving Governance of Education Programmes

Failure of education programmes in reaching the un-reached in cities can be attributed primarily to a lack of capacity in the government and absence of systems at the grassroots to respond to the legitimate needs of the poor. A confluence of several implicit and explicit factors are responsible for low levels of government capacity; lack of data and data systems, inefficient policy instruments, poor understanding of participation processes and issues, inadequate resources or options for leveraging finances for education infrastructure outside the public sector and tension between people's needs and official programmes.

Geographical Information Systems (GIS) serves as valuable/dynamic tools for better management of education systems. The **PEEP Community Based Education Information System** has captured the reality of people's lives by listening to their voices. Community spatial data that includes community and individual resources, demographic details and people's priorities and actions gathered through community mapping processes is integrated with city spatial/digital data. Household data encapsulates number of children by age, sex, enrolment, participation, occupation, in case of working children, and children with different abilities. A broad information base has been created with household details about working women, immunization and health practices, household assets and basic services such as toilets, water taps; income profiles, drop out children, etc. Membership profile of NHGs / CECs helps to assess the extent and level of community involvement and representation that has been facilitated.

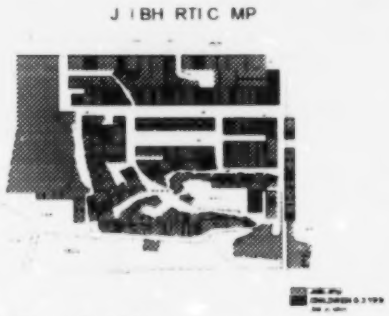


Fig 3: Household Map

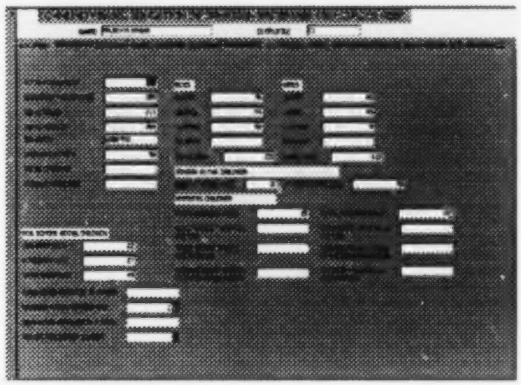


Fig.4: Data Entry Forms

Data entry forms are custom built to enhance user friendliness and easy updating. Household data is combined and hyper-linked to these community information sheets for generating community profiles, using database management software (Front Page Access). Community profiles also note issues and priorities of women such as availability of child-care services, extent of alcoholism, domestic violence or child abuse in the community, children in need of special protection, NGOs in the community etc.

Primary surveys record information on location and sprawl of settlements and availability of social services, in particular schools, health centres and public distribution centres that provide subsidized grains to the poor, to understand issues of availability and access.

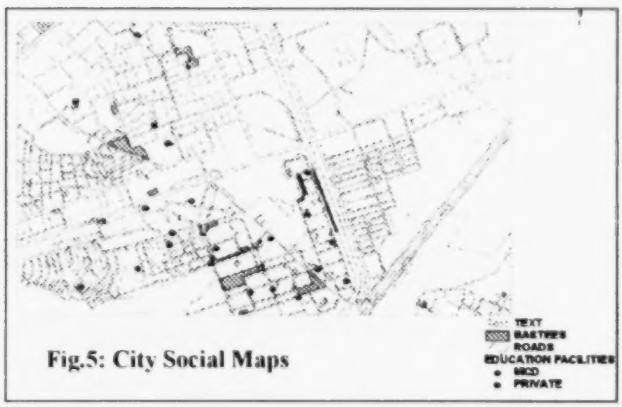


Fig.5: City Social Maps

Planning for Education Intervention with GIS

Education planning becomes more sensitive and education administration more efficient with such an information system. A range of queries can be generated using the GIS; realistic estimates of number of children out of school by reason, service deficient areas, at-risk communities, infrastructure poor schools, local institutions and possible partners among the civil society, etc. to help administrators take demand responsive decisions. GIS can also help to integrate community priorities into city education plans and strategies. Data attached to each neighbourhood school makes monitoring simpler and effective. Archival information provides time-series data to help follow through and to extrapolate plans over a needs base.

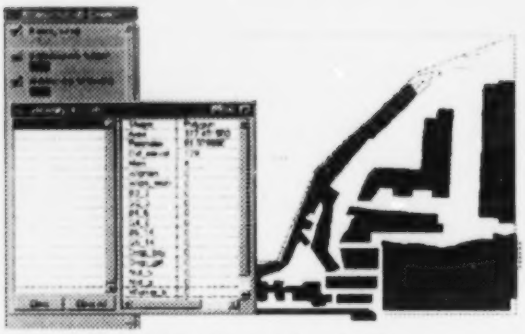
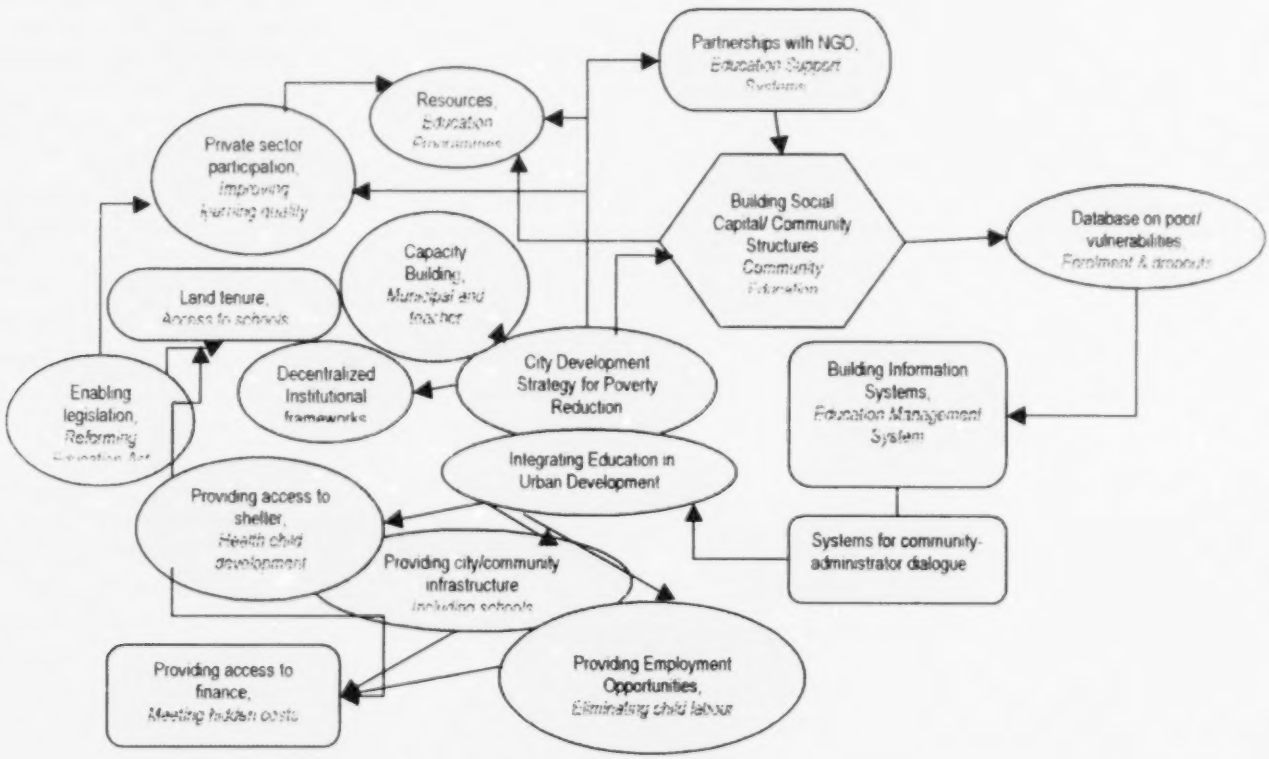


Fig 6: Taking Decisions using database

Accurate databases can help anticipate and mobilize resources as also appreciate resource gaps and help think through possible options and solutions. Opportunities in the environment such as community financing, community management and maintenance, etc. can be explored and innovative ideas integrated into the planning process. Temporal studies can help to track changes such as relocation and resettlement of urban poor clusters, cross sectoral issues and opportunities for convergence with different stakeholders and to re-think education intervention processes. Most importantly, such an information system can help to define the broad reform agenda and framework within which planning needs to take place.

Strategic Framework for Urban Poverty Reduction through Education Intervention

Integrating education within a broad urban development agenda is vital for a significant reduction in urban poverty. Integrated urban development planning responds to the strategic needs of urban poor families that cut across sectors of employment and employable skills, shelter and security of tenure, basic services, safety and empowerment. In order to address the wide-ranging needs of poor and alleviate their vulnerabilities, an enabling environment must be supported at the local level. A poverty reduction framework that is child-friendly is presented below.



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Municipal Reform Agenda

A vibrant and reforming municipality apart from an efficient management information system would need an enabling environment/policy that allows it to enter into partnerships with all city stakeholders, particularly CBOs, NGOs and the private sector. Legalizing entitlements through amendments to local/state laws will allow local authorities to reach poor settled illegally, with basic shelter and physical infrastructure. For this to happen, powers centres for local decision-making must shift from federal to city institutions with matching resources.

Building Capacity of Municipal Functionaries

Municipal capacities and sensitivity to work with an unconventional array of actors would require augmentation through demand responsive training interventions. Technical support would facilitate local bodies to formulate projects, raise resources for poverty/child development programmes, monitor and assess targeting and impact of inter-mediations, etc. Non-traditional partners in the private sector would need persuasion to strike a balance between commercially viable ventures and poor friendly services. Cities are only just beginning to wake up to the challenge of mobilising resources from the domestic capital market and to improve management and recovery, as a strong fiscal base is an absolute must for making cities poor-friendly.

Focus on Security

Once all problems are peeled away, security of tenure, particularly in developing countries, remains *the* issue in poverty alleviation. Most low-income settlements exist illegally on public or private land. While this makes the issue of service delivery intricate including recognition for provision of schools/early childhood care centres, it also inhibits self-help mechanisms of the poor by deeming them unlawful. Issue of shelter is particularly relevant to early childhood programming since children must grow up in adequate and healthy homes.

As cities begin to grow, poverty too is seen as being urbanized. Poor, however, are as much a part of cities as the rich and contribute to its vibrancy and industry. To push them out or to treat them as benefactors is to deny them their entitlements. Making them partners-in-process is the key to the problem of urbanization of poverty. Cities must be without slums. Pro-poor cities demand that poor are integrated within the city systems and provided opportunities to improve the quality of their lives. In a globalising economy, cities must be replete with an economic energy that attracts to it the nature of investment desired for meeting its service delivery challenge. Child friendly cities are people friendly cities. Only healthy cities with healthy children can promote sustainable development.

ANNEXES

Box 1: Vulnerability of Urban Poor: Transecting an Urban Poor Settlement in Delhi[iv]

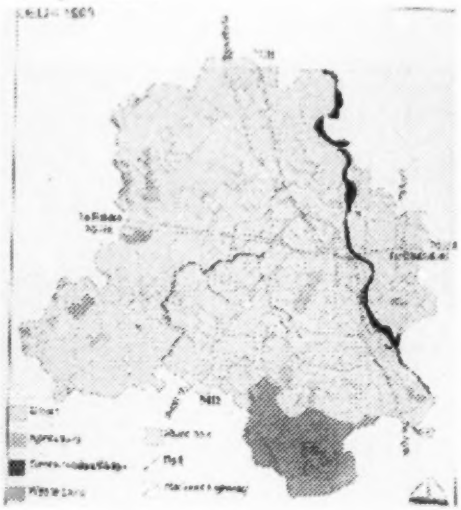
IP Extension, a settlement located on a small plot of land, is an archetype of a poor settlement in Delhi. Home to about 2000 people, and sandwiched between a sewage drain, an open garbage dump and a buffalo yard, it is an illegal settlement located on government land. Like several others, it has no toilet facility, compelling all its residents to defecate in the open under cover of darkness, often at great personal risk. Its source of water is a single municipal tap, with intermittent supply of poor quality water and no drains for the wastewater. Electricity connections are illegitimate, tapped from the overhead transmitter line, with the support of the local electricity Mafia. All waste generated is disposed off on the heap of garbage lining one end of the community exacerbating its unhygienic living conditions and threatening the health of the dwellers. Of more than 350 children in the school going age group, one third are out of school with the nearest school a 30 minutes walk across a busy traffic intersection. Health services too are distant and the community depends upon the local medical practitioners in the area. Most women are engaged in some informal income generating activity ranging from street hawking, street sweeping, casual labour, home based activities out-sourced through industrial contractors, domestic work, etc. Average household income is at about Rs2000 (US$50) per family (NIUA, 1999), a major proportion of which is spent on accessing health care and other basic services. Insecurity of land tenure leads to a fear of removal/relocation, forestalling personal investments in shelter up-gradation. Dwellings are therefore primarily *kucha (impermanent)*, with walls made of bricks and roofs of plastic or tin sheets. Situation in other similar settlements varies only in the degree of slumminess and deteriorates with increasing size of the cluster.

Slumminess of urban poor areas

Box 2: Delhi's Urban Poor: Some Facts and Figures[v]

Delhi's capacity to provide opportunities for economic and social mobility has held out a magnetic appeal for people across the country, with enormous implications to its demography. Massive population increase due to large-scale in-migration has been further sustained by a high natural growth, primarily in the low-income areas. This significant demographic change has shown up in sharp differentials among different sections of the society, including education, with consequent challenges related to its service delivery. Increase in number of poor and proliferation of their habitats in Delhi has moved in tandem with the expansion of the city. Delhi accounts for 3.87 percent of the total urban population of the country (Census of India, 1991). With merely of 1.7 million people in 1951, the city has touched 13.94 million in 2001, and is expected to double its population over the next fifteen years. Deepening income inequalities are visible in the increase in population below the poverty line, up from 13.56 percent in 1993-94 to about 16 percent at present (Planning Commission, 1997). In absolute numbers, this rise has translated into a twofold increase in the population living in squatter settlements over the past decade, from 1.3 to 2.24 million[vi]. Recent counts under PEEP put the figure at nearly 5 million, roughly one third of the city population (NIUA, 1999).

Map of Delhi



Annex 1: Status of Education in India and Delhi

National Literacy Rate: 52.21% (1991[viii])
Population of Delhi 1991: 9,420,644
Estimated Population for 2001: 14,000,000
Sex Ratio (1991): 827
Children in the age group <14 years: 34.7%
People living without adequate shelter: 13% approximately
Availability of safe drinking water: 96%
Toilet facilities: 63.38%
Electricity in homes: 79.48%
Infant Mortality Rate 29.55
No of primary schools: 2339
Literacy rate: 85% (NCT 2000[viii])
Dropout rate in primary classes: 36.27%[ix]

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[i] ADB. Draft Technical Report on Urban Poverty Reduction in India. Prepared by NIUA, 2001.

[ii] Moser, C. et al., 1996, *Urban Poverty Research Sourcebook, Module II: Indicators of Urban Poverty*, Urban Management Program Working Paper Series 5

[iii] Sengupta, C. et al., 2000, *Urban Poverty and Vulnerability in India: Nature, Dynamics and Trends*, Oxfam (India) Trust, Bookline, Hyderabad

[iv] World Bank, 2000. Op cit

[v] Khosla, Renu. Downscaling Poverty in Delhi: Process and Prospects. Paper prepared for presentation at the Urban Poverty Forum of the World Bank, March

[vi] Two main studies conducted by the government came up with varying estimates of people below the poverty line. First, a survey by the Food and Supplies Department in January 1990 for issuing ration cards noted 0.26 million squatter households accounting for a population of 1.3 million. Later, in 1994, a broad field assessment by the Slum Wing estimated the number of households at 0.48million, deeming the squatter population at 2.4 million.

[vii] GOI. Annual Report, 1996-97, Part-1. Department of Education, Ministry of Human Resource Development, New Delhi.

[viii] Government of National Capital Territory of Delhi 2000, *Sectoral highlights of annual report 1999-2000*, Planning Department, New Delhi.

[ix] Planning, Monitoring and Statistics Division. *A Handbook of School Education and Allied Statistics*. 1996. Ministry of Human Resource Development, GOI, New Delhi.